

BOOK REVIEWS

BRIAN CAPON. 2005. **Botany for Gardeners. Revised Edition.** (ISBN 0-88192-655-8, pbk.). Timber Press Inc. 133 S.W. Second Ave, Suite 450, Portland, OR 97204-3527, U.S.A. (**Orders:** www.timberpress.com, mail@timberpress.com, 503-227-2878, 1-800-327-5680, 503-227-3070 fax). \$19.95, 240 pp., 147 color photos, 3 color drawings, 1 b/w photo, 53 line drawings, 4 tables, 6" × 9".

Botany for Gardeners by Brian Capon is a handy and well-written book for those who wish to learn more about botany and plant ecology. Many naturalists and gardeners already appreciate plants, but often have unanswered questions about the plants they enjoy. For instance—why do roots grow down and shoots grow up? How do water and nutrients move through a plant? What are all the parts of a plant and flower? How do plant grafts work? What are mycorrhizae? What is the purpose of all the different nutrients in fertilizer? These and so many other botanical questions are answered and explained in this book. *Botany for Gardeners* is lavishly peppered with color photographs and black and white drawings that coordinate with ideas and topics being discussed in the text. These images, some of which are from a microscope, enhance the readers understanding of plant structure and make-up.

There are five main sections in the book: growth, organization of plant structures, adaptations, plant functions and reproduction. Each main section is broken down into reasonably sized sub-chapters.

The section discussing plant growth starts with the basics of a plant cell through seed germination and continues into the roots, shoots, leaf growth, and leaf maturity. The section on organization gives the reader an inside look at stems and roots, emphasizing their cellular organization and cell types. The adaptation section introduces the reader to all the ways that plants adapt to various environmental challenges: among these are climate variations, protection from animal browsing, wound healing, chemical protection, and finally enhancing a plants ability to compete in and among other plants for space, light, water, and nutrients. This section also includes an interesting discussion about plant food sources, water storage, and beneficial relationships with fungi.

The section on plant functions covers growth responses to light, gravity, touch, branching, adventitious root formation, and the hormones and environmental conditions involved in those functions. Mineral nutrient requirements, water and mineral uptake and transport within the plant are discussed, as well as the process of photosynthesis.

The final section covering plant reproduction includes discussion of flower parts, pollination, pollination strategies, fruit types, seed formation, and seed dispersal. The final chapter of the reproduction section includes a plant genetics primer that introduces readers to the life cycles of mosses, ferns, and flowering plants, Punnet squares, and gene expression. Some of the valuable tidbits included throughout the chapters are a table listing the origins of garden and many agricultural crop plants, distinct definitions and photographs of spines, thorns and prickles, a list of poisonous household plants, a primer on plant genetics, and an appendix discussing plant naming classification.

Botany for Gardeners not only cover the basics, but also can take a reader much deeper into the details of photosynthesis and plant genetics. Some of the topics may be beyond what any particular reader would like to know. The author does a good job of presenting topics such as photosynthesis, respiration and genetics, which, by nature can be frustrating to understand. The photographs and figures will really help the reader understand what is being discussed; especially items such as cellular organization or structural development where a microscope would be needed to view and understand the topic properly. Whether you are looking for that book that will introduce you to the basics of plant biology, are looking to answer gardening questions, or need a book to help you create a botanical background to learn to use an identification text, *Botany for Gardeners* is the book for you!—Lee Luckeydoo, Herbarium, Botanical Research Institute of Texas, 509 Pecan Street, Fort Worth, TX 76102-4060, U.S.A.